# XLReportGen User Manual

Version 5.2

2014-04

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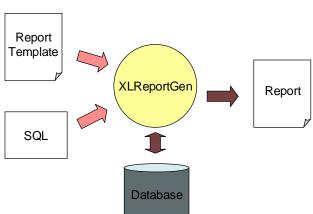
# **Chapter 1 Introduction**

#### 1.1 Overview

XLReportGen is a report generator for Microsoft Excel that outputs reports in Microsoft Excel spreadsheet format. If you know how to use Microsoft Excel and write SQL statements, you can use XLReportGen to create all kinds of reports as you need.

To create a report,

XLReportGen need to read a report template file and an XRF file. The report template file is a Microsoft Excel workbook that defines the layouts and formats of a report. The XRF file



contains SQL statements and some information, and tells XLReportGen how to get data from database and how to put data into a report. XLReportGen creates a blank report using the report template file, executes SQL statements in the XRF file, and puts the data from database into the report.

#### 1.2 Features

XLReportGen includes the following features:

Using Microsoft Excel as your reporting tool

Just use Microsoft Excel as your reporting tool. You design reports like layouts, formats and styles directly using Microsoft Excel. And you will get reports in Microsoft Excel spreadsheet format as a result. Microsoft Excel is powerful, flexible and familiar. You do not need to buy and learn extra reporting tools.

- Making report template directly using Microsoft Excel

  The main advantage of using XLReportGen is based on the fact that all formatting is done directly in Microsoft Excel. You can take advantage of Microsoft Excel including cell formatting, formulas, drawing and pictures, charts, multiple sheets, page setup, headers and footers, and more.
- Manipulating Excel reports with OpenXML SDK
  Open XML is an open file format for the core document-oriented Office applications. It facilitates document creation and manipulation in server environments where you do not need to install the Office client applications.
- XLReportGen executes SQL statements to extract data from database.

  Supports all type SQL: DML, DDL and DCL. Multiple SQL statements can be executed in one report building process. You can perform queries on databases, insert data into databases, and create database objects like tables. The power of SQL can be harnessed for maximum efficiency in reporting.
- Creating reports without programming experience

  If you know how to use Microsoft Excel and how to write SQL, it is enough. It does not require programming to create reports.
- Connection to databases using ADO.Net
  Using ADO.NET to connect to databases, XLReportGen is independent of
  database systems. It can access to almost all of databases such as Oracle,
  DB2, Sybase, Informix, Microsoft SQL Server, Teradata, MySQL, Microsoft
  Access and dBase through OLE DB and ODBC.
- Supporting multi-databases in one report

  XLReportGen supports multi-databases in one report. You can get data from some different databases such as Oracle, DB2 and Microsoft SQL Server, and put these data into one report.
- Generating reports with parameters

Accessing to data using SQL

XLReportGen enables you to create reports with parameters. You may use parameters in SQL statements. You will be asked to input the values of parameters while creating reports.

■ Supporting Windows mode and command line mode

XLReportGen supports command line mode. So it is possible to call

XLReportGen from other program. For developers, you can integrate

XLReportGen into your application.

#### Creating complex reports

You can create complex reports. The complexity might come from report formatting as well as report content.

Creating reports with charts

XLReportGen enables you to include sophisticated, colorful charts in your reports. You can use charts any time you want to improve the usefulness of a report.

Creating reports with pictures

XLReportGen can insert pictures from the graphics files, position and size the pictures according to your instruction.

Many reports in one Microsoft Excel workbook

One Microsoft Excel workbook may contain many reports. You can generate a book of reports in one generating process.

Generating reports automatically

The process of report generation can be fully automated, periodically or on events. XLReportGen can be scheduled with Windows Scheduled Tasks or other tools.

One time configuration

With one time configuration, you can repeatedly generate reports especially periodic reports such as daily, weekly, monthly and annual reports.

■ Flexible deployment

XLReportGen can be run on your desktop or server.

# **Chapter 2 Installation and Startup**

## 2.1 Software Requirements

Supported Operating System:

Microsoft Windows XP, Windows Server 2003, Windows Vista, Windows Server 2008, Windows 7 or later.

This software requires the following:

- Microsoft .NET Framework 4.
- Open XML SDK 2.5 for Microsoft Office.

## 2.2 Installing XLReportGen

Run the installation program, and follow the instructions to complete XLReportGen installation.

If you don't have Microsoft .NET Framework 4 installed, please install it first.

If you don't have Open XML SDK 2.5 installed, please install it first.

# 2.3 Uninstalling XLReportGen

- 1. Quit XLReportGen.
- 2. Double-click the **Add/Remove Programs** icon in the Windows Control Panel.
- 3. Click **XLReportGen** in the **Currently installed programs** box, and then click the **Change/Remove** button.
- 4. Follow the instructions on the screen to complete uninstalling the program.

#### 2.4 Command Line

XLReportGen can be run in Windows mode or command line mode. The

#### syntax of command is:

excelreport <xrf file name> [-C] [-D] [-I interval] [-U1 user1] [-P1 pwd1] ... [-U10 user10] [-P10 pwd10] [pa1 pa2 ... pa10]

xrf file name Specifying an XRF (.xrf) file that tells XLReportGen how to get data from data sources and how to put data into a report.

-C Run XLReportGen in command line mode.

-D Display the generated report with Microsoft Excel.

-I interval Log the processing records message. If interval is greater than 1, it is the interval of records. If interval is less than 1, it is the percent of interval.

-U1 user1 ... Specify the user names. user1 is the user name of the first
-U10 user10 data source. user2 is the user name of the second data
source......

-P1 pwd1 ... Specify the passwords. pwd1 is the password of the first data -P10 pwd10 source. Pwd2 is the password of the second data source......

pa1 ... pa10 The values of parameters defined in the XRF file. You can use parameters in SQL statements. XLReportGen will replace the names of parameters in a SQL statement with the actual values before it executes the SQL statement. You can use no more than 10 parameters in one report.

For example, you have defined two parameters in your XRF file. The first parameter is the sales date, and the second is the category of product. You can run XLReportGen in command line mode as follows:

excelreport c:\excelreport\myreport.xrf -c 1996-05-01 "Dairy Products"

# **Chapter 3 Quick Start**

## 3.1 Learning how to use XLReportGen

You can teach yourself how to use XLReportGen by choosing from the methods available in this section:

- You can study the sample reports and sample database included with XLReportGen.
- You can use the detailed descriptions and instructions in the "My First Report".

## 3.2 Sample Database

XLReportGen comes with Sample.mdb, a sample database you can use when learning the program. Sample.mdb is a Microsoft Access database. Virtually all of the examples in this manual are based on Sample.mdb data.

The sample reports access to the sample database through the ODBC data source name "Report Sample". When you install XLReportGen, you can choose to add the ODBC data source name. And you also can add the ODBC data source name manually.

To create the System DSN "Report Sample", do as follows:

- 1. Click the Windows **Start** button, choose **Settings**, and then click **Control Panel**.
- 2. Double-click **Administrative Tools**, and then double-click **Data Sources** (ODBC). The ODBC Data Source Administrator dialog box appears.
- 3. Select the **System DSN** tab, and then press **Add** button.
- 4. Choose Microsoft Access Driver (\*.mdb), then press Finish button.
- 5. In the **ODBC Microsoft Access Setup** dialog box, type **Report Sample** in the **Data Source Name** box.

- 6. Press the **Select** button, and browse to select **Sample.mdb**.
- 7. Press **OK** button to close the **ODBC Microsoft Access Setup** dialog box.
- 8. Press **OK** button to close the **ODBC Data Source Administrator** dialog box.

## 3.3 Steps of Reporting

To create a report with XLReportGen, you should do as follows:

#### 1. Prepare works

Before you create a report, you should determine the layout of report, and know where and how to get the data.

You must know how to access to the databases you are reporting from. So you need the data source name, user name and password. If you don't have data sources added, please add data sources first. Run ODBC Administrator, you can add a new data source. For detailed information about configuring ODBC, refer to ODBC Administrator Help.

#### 2. Make a report template file

Create a report template file using Microsoft Excel. For detailed information about report template, refer to "Report Templates" in this document.

#### 3. Create an XRF file

Create an XRF file with an .xrf extension using XLReportGen. There are two steps to create an XRF file.

#### (1) Configure the report

Define the names of data sources, the name of report template file, the name of report file and the name of log file. If you want to use parameters in SQL statements, define these parameters.

#### (2) Write functions

Write the functions and SQL statements that specify how to get data from data sources and how to put data into the report.

For detailed information, refer to "Reporting with XLReportGen" in this document.

#### 4. Run the XRF file

Run the XRF file to generate a report file. For detailed information about running report, refer to "Running an XRF File" in this document.

## 3.4 My First Report

The following tutorial has been designed to guide you to create your first report. In this tutorial, you will get an introduction to the program as you create a Customer List report. The Customer List is one of the most basic business reports and typically has information such as Customer Name, City, Country, and Contact Name.

## 3.4.1 Creating a report template

- 1. Run Microsoft Excel, a new workbook will open.
- 2. Select the cell A1, type "Customer Name". In the same way, you input "City", "Country" and "Contact Name" into the cells B1, C1 and D1.
- 3. Format the text of A1, B1, C1 and D1 as you like, including font, font size, font color, bold, background, alignment and border.
- 4. You can change the width of these columns. The report template you have made is as follows:

	A	В	С	D
1	Customer Name	City	Country	Contact Name
2				
3				
4				

- 5. Click **Save** on the **File** menu, chose a directory such as "C:\Report", type custlist.xlsx in the **File name** box and press **Save** button.
- 6. Click Close on the File menu.

## 3.4.2 Creating an XRF file

- 1. Run XLReportGen.
- 2. Click **New** on the **File** menu.
- 3. Click **Save** on the **File** menu, chose the directory to which you have saved the report template, type custlist.xrf in the **File name** box and press **Save** button.

## 3.4.3 Configuring the report

- 1. On the **Report** menu, click **Configuration**. The **Configuration** dialog box appears.
- 2. Click the File tab.

In the **Template File** box, type custlist.xlsx; In the **Report File** box, type Report\custlist.xlsx; In the **Log File** box, type Log\custlist.log.

3. Click the **Data Source** tab.

Press **New** button, the **New Data Source** dialog box appears. In the **Name** box, type Report Sample, press **OK** button.

4. On the **Configuration** dialog box, press **OK** button.

## 3.4.4 Inputting a function

In the editor windows, input a function as follows:

@F1=Report(sheet=Sheet1 cell=A2)

SELECT CompanyName

,CityName

,CountryName

,ContactName

FROM Customers, Cities, Countries

WHERE Customers.CityCode = Cities.CityCode

AND Customers.CountryCode = Cities.CountryCode

AND Customers.CountryCode = Countries.CountryCode

ORDER BY CompanyName,CityName,CountryName
:

You can test the SQL statement in a query tool such as Microsoft Access or Microsoft Query.

## 3.4.5 Understanding the function

Before going any further, let us understand this function.

- 1. The **Report** function will execute the SQL statement, get data from data source, and put data into the report.
- 2. The **sheet** argument identifies a worksheet, and the value Sheet1 is the name of worksheet.
- 3. The **cell** argument specifies the cells that the first record will be filled into. The value is A2. So XLReportGen will fetch the first record, put the value of CompanyName field into A2, the value of CityName field into B2, the value of CountryName field into C2, and the value of ContactName field into D2. And then it will fetch the next record, and put them into A3,B3,C3 and D3......

## 3.4.6 Running an XRF file

- 1. On the **Report** menu, click **Run**, the **Run Report** dialog box appears.
- 2. Press Start button to run the XRF file.
- 3. XLReportGen will generate a report.
- 4. After the status is **Done**, click **Close** button.

## 3.4.7 Opening a report

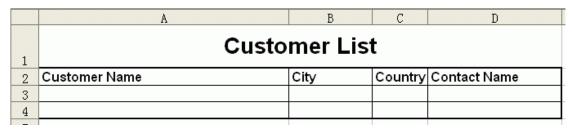
1. On the **File** menu, click **Open Report File** to open the report you have generated.

You can view and check the report.

- 2. On the **File** menu, click **Open Log File** to open the log file that recorded the log information in the report generating. You can check the log.
- 3. Close the report file and the log file.

## 3.4.8 Modifying the report template

- 1. On the **File** menu, click **Open Template File** to open the report template.
- 2. Change the width of columns. It is very useful to copy some sample data from the report file into the report template for formatting.
- 3. Insert a new row on the top, type Customer List as the report title.
- 4. Add borders for the range "A2:D4". The external border can be different from the internal border. The report template you have made is as follows:



5. Save and close the template file.

## 3.4.9 Modifying the function

In the editor windows, modify the function as follows:

@F1=Report(sheet=Sheet1 cell=A3 rangecount=2)

SELECT CompanyName

,CityName

,CountryName

,ContactName

FROM Customers, Cities, Countries

WHERE Customers.CityCode = Cities.CityCode

AND Customers.CountryCode = Cities.CountryCode

AND Customers.CountryCode = Countries.CountryCode
ORDER BY CompanyName,CityName,CountryName
:

- 1. Change the value of **cell** argument because you insert a row.
- 2. The **rangecount** argument specifies the number of ranges in the report template. You have defined two blank ranges in the report template. One row is one range. If you hope that the format of the last row/column border is different from the others, you can define two ranges in the report template.

## 3.4.10 Generating the report again

- 1. Save the XRF file.
- 2. Run the XRF file to generate the report.
- 3. Open the report, view and check the report.

The report should now look similar to the following:

	A	В	С	D
1	Custo	mer Lis	t	
2	Customer Name	City	Country	Contact Name
3	Alfreds Futterkiste	Berlin	Germany	Maria Anders
4	Ana Trujillo Emparedados y helados	México D.F.	Mexico	Ana Trujillo
5	Antonio Moreno Taquería	México D.F.	Mexico	Antonio Moreno
6	Around the Horn	London	UK	Thomas Hardy
7	Berglunds snabbköp	Lule	Sweden	Christina Berglund
8	Blauer See Delikatessen	Mannheim	Germany	Hanna Moos
9	Blondel père et fils	Strasbourg	France	Frédérique Citeaux
10	Bólido Comidas preparadas	Madrid	Spain	Martín Sommer

Now you have created a report.

# 3.5 Samples

After XLReportGen is installed, some sample reports are installed too. Use these reports to learn XLReportGen. The sample reports can be changed to adapt to your own needs.

The sample reports include a sample database, some report template files (.xlsx) and XRF files (.xrf). They are located in the Application Data\LJZsoft under All Users or your profile folder.

Directory	Description
{commonappdata}\LJZsoft\Common\Sa	Contains the sample database
mpleDatabase	"Sample.mdb".
{commonappdata}\LJZsoft\XLReportGe	Contains the report template files
n\Samples	(.xlsx) and the XRF files (.xrf).
{commonappdata}\LJZsoft\XLReportGe	Contains the report files (.xlsx)
n\Samples\Report	generated by XLReportGen.
{commonappdata}\LJZsoft\XLReportGe	Contains the log files created by
n\Samples\Log	XLReportGen during generating
	report files.

{commonappdata} is the path to the Application Data folder under All Users.

The Application Data folder is usually at:

Windows XP: C:\Documents and Settings\All Users\Application Data\

Windows Vista or later: C:\ProgramData\

# **Chapter 4 Report Templates**

# **4.1 About Reports**

The report generated by XLReportGen is a Microsoft Excel workbook that contains one or more worksheets. The layouts, formats and styles of report are defined by a report template, and the data of report are got from databases such as Oracle, DB2.

## **4.2 About Report Templates**

To make a report using XLReportGen, you should create a report template first. This report template is a Microsoft Excel workbook that defines the layouts, formats and styles of report. In the Microsoft Excel report template, you can input static contents such as titles, descriptions, comments, a cover, a company logo, format the static content, and define the format of cells you will fill data into.

XLReportGen will generate the report based on the report template file. All static contents, layouts, formats and styles defined in the report template file will be brought to the final report file.

# **4.3 Excel Basic Concepts**

If you have known these concepts of Microsoft Excel, please skip this section. For more detail information about Microsoft Excel, refer to *Microsoft Excel Help*.

#### 4.3.1 Workbooks and Worksheets

A Microsoft Excel workbook is a file that contains one or more worksheets,

which you can use to organize various kinds of related information. You can enter and edit data on several worksheets simultaneously and perform calculations based on data from more than one worksheet. When you create a chart, you can place the chart on the same worksheet as its related data or on a separate chart sheet.

Worksheet is the primary document that you use in Microsoft Excel to store and work with data. It also called a spreadsheet. A worksheet consists of cells that are organized into columns and rows; a worksheet is always stored in a workbook.

## **4.3.2 Ranges**

A range represents a cell, a row, a column, or a selection of cells containing one or more contiguous blocks of cells. The cells in a range can be adjacent or nonadjacent.

#### 4.3.3 Formulas

Formulas are equations that perform calculations on values in your worksheet. A formula starts with an equal sign (=). A formula can contain any or all of the following: functions, references, operators, and constants. You can perform calculations using formulas.

#### **4.3.4 Names**

A name is a word or string of characters that represents a cell, range of cells, formula, or constant value. Use easy to understand names, such as Products to refer to hard to understand ranges, such as Sales!C20:C30.

#### 4.3.5 Headers and Footers

Headers and footers are areas in the top and bottom margins of a worksheet.

You can add a header and footer on each worksheet. You can insert a page number, date and time, graphic, file name in a header and footer, and change the font in header and footer text. You can have only one custom header and one custom footer on each worksheet. If you create a new custom header or footer, it replaces any other custom header or footer on the worksheet.

## 4.3.6 Page Breaks

Microsoft Excel will break pages automatically. You can manually insert horizontal or vertical page breaks.

## 4.3.7 Drawings, Pictures and Diagrams

You can add graphics to your worksheets and charts to make them more visually appealing, to create eye-catching reports, or to add emphasis. For example, you can display a logo on your worksheet, create a flowchart, and use graphics in chart data markers. You can make your worksheet interactive by using graphic objects as hyperlinks or by assigning buttons to macros.

#### **4.3.8 Charts**

Charts are visually appealing and make it easy for users to see comparisons, patterns, and trends in data. To create a chart, you must first enter the data for the chart on the worksheet. Then select that data and create a chart. A chart is linked to the worksheet data it's created from and is updated automatically when you change the worksheet data.

## 4.3.9 Formatting

You can use these formatting features of Microsoft Excel to effectively display your data.

Format text and individual characters

To make text stand out, you can format all of the text in a cell or selected characters. You can set the font, color, and alignment of text.

#### Rotate text and borders

The data in a column is often very narrow while the label for the column is much wider. Instead of creating unnecessarily wide columns or abbreviated labels, you can rotate text and apply borders that are rotated to the same degree as the text.

#### Add borders, colors, and patterns

To distinguish between different types of information in a worksheet, you can apply borders to cells, shade cells with a background color, or shade cells with a color pattern.

#### Number formats

You can use number formats to change the appearance of numbers, including dates and times, without changing the number behind the appearance. The number format does not affect the actual cell value that Microsoft Excel uses to perform calculations.

#### Conditional formatting

The conditional format is a format, such as cell shading or font color, that Microsoft Excel automatically applies to cells if a specified condition is true.

#### ■ Style

The style is a combination of formatting characteristics, such as font, font size, and indentation, that you name and store as a set. When you apply a style, all of the formatting instructions in that style are applied at one time.

# 4.4 Table Reports

# **4.4.1 About Table Reports**

A table is made up of rows and columns of cells that you can fill with text and

graphics. Tables are often used to make reports, and organize and present information.

XLReportGen supports two types of table reports: fixed table report, variable table report.

Fixed table report: The number of rows and columns in the table is fixed. When XLReportGen executes a SQL statement, directly puts the result data into the cells in the table.

Variable table report: The number of rows or columns in the table is unfixed, and it is variable as the number of result records. When XLReportGen executes a SQL statement, it repeats the table rows or columns for each record or group, and then puts data into the cells of table.

## 4.4.2 Creating a Worksheet for a Fixed Table Report

For a fixed table report, you need to create a worksheet in the report template file according to the report. The format of worksheet is the same as the format in the report, but the cells that will be filled data into are blank. When XLReportGen executes a SQL statement, the data from data source will be filled into these cells.

	Α	В
1		
2		
3		



	Α	В
1	14	3.4
2	20	5.2
3	8	2.7

The fixed table defined in the report template file

The fixed table filled data by rows in the report file

## 4.4.3 Creating a Worksheet for a Variable Table Report

For a variable table report, you also need to create a worksheet in the report

template file according to the report. But you just need to define one or two blank ranges for one or two records in the worksheet. A range represents a single cell or a range of cells. For example, "A3:D3". XLReportGen will insert some ranges according to the number of records returned from data source, and fill data into the ranges.

Date	Item Id	Sales



Date	Item Id	Sales
1998-01-01	3	150
1998-01-02	3	200
1998-01-03	3	250
1998-01-05	3	350
1998-01-10	3	550
1998-01-21	3	150
1998-01-25	3	200
1998-01-31	3	100

The variable-rows table defined in the report template file

The variable-rows table filled data by rows in the report file

The format of the last row/column border can be different from the others. For example, the outside borders used double lines, and the inside borders used single lines. To do this, you should define two blank ranges.

The ranges can be nested. The inside range is used for the detail data, and the external range is used for the group. XLReportGen will repeat the inside range for each record, and repeat the group range for each group.

## **4.4.4 Formatting Cells for Pictures**

To enhance the visual impact of your report, you can insert pictures into your report. XLReportGen supports many popular graphics file formats: bitmap, JPG, GIF, PNG, TIFF and so on. For the graphics file formats XLReportGen supports, refer to *Microsoft Excel Help*.

You should store the path and name of graphics files in the database, and

identify the image fields in the report function. XLReportGen will read the graphics files, and insert them into the cells in the report file.

To specify the positioning option and size, you should write a formatting expression into the cell in the report template file. XLReportGen will get the text of cell, and insert a picture into the cell according to the instruction in the format expression. The format expression for pictures as follows:

[placement] [size]

The **placement** specifies the positioning option, and can be one of the following values. The default value is MNS.

Values	Description
MAS	Move and size with cells.
MNS	Move but don't size with cells.
NMS	Don't move or size with cells.

The **size** specifies the size of a picture. Possible values are STRETCH, Wnnn or / and Hnnn. "STRETCH" means that the picture is resized to fit within the cell. "W100" means that the width of picture is set to 100 points. "H50" means that the height of picture is set to 50 points. The default means the original size. If you just specify the width or height of picture, not both, XLReportGen will retain the original proportions of picture when XLReportGen resize it.

#### Example

w84

#### Remarks

On the supposition that the original picture is size 144 x 168 points.

XLReportGen will insert a picture, set the positioning option to **Move but don't** size with cells, set the height of picture to 72 points, and the width to 84 points.

#### 4.5 Charts

#### 4.5.1 About Charts

Charts are visually appealing and make it easy for users to see comparisons, patterns, and trends in data. You can use Microsoft Excel to add sophisticated, colorful charts in your reports. For example, you can see at a glance whether sales are falling or rising over quarterly periods, or how the actual sales compare to the projected sales. You can create a chart on its own sheet or as an embedded object on a worksheet.

## 4.5.2 Creating a Blank Chart

To create a chart in the report using XLReportGen, you need to add a chart in the report template file. The chart will be brought into the report file with the same chart type, display option, number format, titles, data labels and legends. To add a chart in the template file:

- 1. Open the report template file using Microsoft Excel.
- 2. Enter the sample data for the chart on the worksheet.
- 3. Select these data and use the Chart Wizard to step through the process of choosing the chart type and the various chart options, or use the **Chart** toolbar to create a basic chart that you can format later.
- 4. Customize the chart. For example, change the chart type, colors, lines, fills, number formats, titles, data labels and legends in charts.
- 5. After you have finished the customization, delete data from the chart. You should keep a blank chart in the report template file.

For more detail information, refer to *Microsoft Excel Help*.

# **Chapter 5 Reporting with XLReportGen**

## 5.1 Creating and Opening XRF Files

#### **5.1.1 About XRF files**

To generate a report with XLReportGen, you must create an XRF file with an .xrf extension. The XRF file contains information such as the name of report template file, the name of report file, log file name, data sources, parameters and functions. The XRF file tells XLReportGen how to get data from data sources and how to put data into a report.

#### 5.1.2 Create a new XRF file

On the File menu, click New.

## 5.1.3 Open an XRF file

- 1. On the File menu, click Open.
- 2. In the **Look in** list, click the drive, folder, or Internet location that contains the file you want to open.
- 3. In the folder list, locate and open the folder that contains the file.
- 4. Click the file, and then press **Open** button.

#### 5.1.4 Save an XRF file

On the **File** menu, click **Save**. If you're saving the file for the first time, you'll be asked to give it a name.

If you want save a file to another name, do as follows:

- 1. On the File menu, click Save As.
- 2. In the **File name** box, enter a new name for the file.

3. Press Save button.

## **5.2 Configuring Files**

#### 5.2.1 About files

You should specify the report template file, report file, report file type and log file. The report template file defines the layouts, formats and styles of report. The report file is the report you want to generate. The type of report file can be different from the template file. The log file records the log information in the report generating.

The file path can be a relative path or an absolute path. If it is a relative path, the base path is the path of XRF file. In the paths and names of report file, template file and log file, you can use parameters. For detailed information about parameters, refer to "Configuring Parameters" in this document.

## 5.2.2 Configuring file information

- 1. On the **Report** menu, click **Configuration**. The **Configuration** dialog box appears.
- 2. Click the **File** tab.
- 3. Input the path and name of template file, report file and log file into their text box. The template file and report file have a .xlsx extension.
- 4. XLReportGen 5 can not convert a file to other file format. You cannot change the **File Type** box.
- 5. If you want to protect the report, select the **Protect Report** check box, and input a password in the **Password** box. If the check box is selected, the Excel report generated is protected, and cannot be modified without the password.
- 6. Press **OK** button to confirm the changes, press **Cancel** button to discard the changes.

## **5.2.3** Converting files

XLReportGen 5 can not convert a file to other file format.

## **5.3 Configuring Data Sources**

#### **5.3.1** About data source

A data source identifies a database you want to access. XLReportGen can access to almost all of the databases such as Oracle, DB2, Sybase, Informix, Microsoft SQL Server, Teradata, MySQL, Microsoft Access and dBase through OLE DB and ODBC. It supports more than one data sources in one report. You can get data from the different databases such as Oracle, DB2 and Microsoft SQL Server, and put them into one report.

You can define a connection to a data source using an ODBC data source name or a connection string. If you use an ODBC data source name to make a connection, you should specify a user name and a password. If you use a connection string to make a connection, you also should specify a data source name that you can reference in functions.

# 5.3.2 Adding, modifying and deleting a data source

- 1. On the **Report** menu, click **Configuration**. The **Configuration** dialog box appears.
- 2. Click the **Data Source** tab.
- 3. If you want to add a data source, press **New** button, the **New Data Source** dialog box appears.
- To define a connection using an ODBC data source name, click **Using**ODBC data source name option, input data source name, user name and password, press OK button.

- To define a connection using a connection string, click **Using connection**string option, input data source name and connection string, select a data provider, press **OK** button.
- 4. If you want to modify a data source, click the data source name in the **Data Source** list box, and press **Edit** button, the **Edit Data Source** dialog box appears.
- To define a connection using an ODBC data source name, click **Using**ODBC data source name option, change data source name, user name and password, press OK button.
- To define a connection using a connection string, click **Using connection**string option, change data source name, connection string, and data provider, press **OK** button.
- 5. If you want to delete a data source, click the data source name in the **Data Source** list box, and press **Delete** button, the confirmation dialog box appears.

  Press **Yes** button to delete the data source.
- 6. You can test a data source. Click the data source name in the **Data Source** list box, and Press **Test** button to display the information of connection to the data source.
- 7. Select or clear the **Encrypt Password** check box. If the check box is selected, passwords will be saved in an encrypted format. Or passwords will be saved in plain text.
- 8. Press **OK** button to confirm the changes, press **Cancel** button to discard the changes.

# **5.4 Configuring Parameters**

## **5.4.1** About parameters

You can use parameters in the SQL statements. These values need to be

provided to XLReportGen before it executes these SQL statements. To use a parameter, you must declare it first. When XLReportGen generate a report, it will prompt you to input the value of parameter. XLReportGen will replace the parameter name in the SQL statements with the actual value before it submits the SQL statements to data sources.

A parameter has a name, a title and a default value. The name of parameter identifies the parameter. You can use the names in SQL statements. The titles will be displayed in the prompt dialog box when XLReportGen is run.

Note: XLReportGen will replace all strings that are the same as the names of parameters. You should be careful to define a unique name for each parameter. It is a good choice a name begins with the "\$" character. For example, you give the name "\$ReportDate" for a parameter. Parameters are case-sensitive.

## 5.4.2 Adding, modifying and deleting a parameter

- 1. On the **Report** menu, click **Configuration**. The **Configuration** dialog box appears.
- 2. Click the **Parameter** tab.
- 3. If you want to add a parameter, press **New** button, the **New Parameter** dialog box appears. Input parameter name, parameter title and default value, press **OK** button.
- 4. If you want to modify a parameter, click the parameter name in the **Parameter** list box, and press **Edit** button, the **Edit Parameter** dialog box appears. Change the name, title and default value of parameter, press **OK** button.
- 5. If you want to delete a parameter, click the parameter name in the **Parameter** list box, and press **Delete** button, the confirmation dialog box appears. Press **Yes** button to delete the parameter.

6. Press **OK** button to confirm the changes, press **Cancel** button to discard the changes.

## **5.5 Inputting Functions**

You should input functions in the editor window. A function includes a SQL statement and some arguments. XLReportGen executes the SQL statement, and determines whether or how to add data into the report. XLReportGen sequentially executes the functions.

Each function is begin with the "@" character. Syntax:

@functionno=functionname(arguments)

sqlstatement

The *functionno* is the label of report function.

The *functionname* represents a report function.

The *arguments* for a function define various properties for the function. For example, the "sheet" argument identifies a worksheet in the Excel workbook. An argument takes the form *Name="Value"*. The argument value can be delimited by single or double quotes.

The *sqlstatement* is a SQL statement.

For more detailed information about functions, see "Function Reference" in this document.

You can use comments in text. A comment is the "/\*" characters, followed by any sequence of characters (including new lines), followed by the "\*/" characters. You cannot nest comments.

# **5.6 Running XRF Files**

You can run an XRF file to generate a report in Microsoft Excel spreadsheet

format. XLReportGen supports Windows mode and command line mode.

#### **5.6.1** Windows mode

- 1. On the **Report** menu, click **Run**, the **Run Report** dialog box appears.
- 2. If you want to display the generated report, select the **Display Report with**Microsoft Excel check box.
- 3. Press **Start** button to run the XRF file.
- 4. If parameters are defined in the XRF file, XLReportGen will pop up a prompt dialog box. Input the values of parameters, and press **OK** button.
- 5. While XLReportGen is being run, it will display some information such as status, SQL count, error count, function No., records count and log information.
- 6. You can interrupt the running. Click **End** button to interrupt it. XLReportGen will immediately save and close the report.
- 7. Click **Close** button after completion.
- 8. If you want to open the report, click **Open Report File** on the **File** menu.
- 9. If you want to check the log, click **Open Log File** on the **File** menu.

#### **5.6.2** Command line mode

You can run an XRF file in command line. You have defined two parameters in the XRF file "myreport.xrf". The first parameter is sales date "\$SalesDate", and the second is the category of products "\$Category". You can run XLReportGen in command line mode as follows:

excelreport c:\excelreport\myreport.xrf -c 1996-05-01 "Dairy Products" XLReportGen will replace "\$SalesDate" in SQL statements with "1996-05-01", replace "\$Category" with "Dairy Products", and then submit SQL statements to data sources.

## **5.7 Using Excel Formulas**

Formulas are equations that perform calculations on values in your worksheet.

A formula starts with an equal sign (=). For example, the following formula multiplies 2 by 3 and then adds 5 to the result.

$$=5+2*3$$

A formula can also contain any or all of the following: functions, references, operators, and constants. For more detail information about formulas, functions and references, refer to *Microsoft Excel Help*.

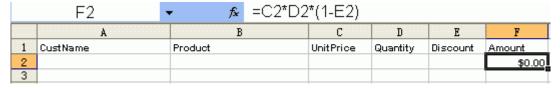
In a report template file, you can use all kind of Microsoft Excel formulas. And then all formulas in the report template file will be brought to the final report file.

#### **Example**

Show Unit Price, Quantity, Discount and Amount. The Amount will be changed if an end user changes Unit Price, Quantity or Discount.

You can use a formula to show Amount.

1. Create a template file as follows, and define the formula "=C2\*D2\*(1-E2)" in the cell F2. You must use the relative reference.



- 2. Write the report function as follow, and use COPYRANGE to copy the formula to all following cells for each record. For the first record, XLReportGen will directly put data into row 2. For the other records, it will copy row 2 to the current row, and then put data into the current row. So the formula in cell F2 will copy to cell F3, F4... and Microsoft Excel will automatically change the formula to "=C3\*D3\*(1-E3)" ...
- @F1=Report(sheet="Sheet1" cell=A2 copyrange=2:2)

SELECT c.CompanyName AS Customer

,p.ProductName

- ,d.Quantity
- ,d.UnitPrice
- ,d.Discount

FROM Orders o

- , Customers c
- , OrderDetails d
- , Products p

WHERE o.CustomerID = c.CustomerID

AND o.OrderID = d.OrderID

AND d.ProductID = p.ProductID

AND YEAR(o.OrderDate) = YEAR('1996-04-01')

AND MONTH(o.OrderDate) = MONTH('1996-04-01')

ORDER BY 1, 2

3. The report generated by XLReportGen is as follows.

	A	В	С	D	E	F
1	CustName	Product	UnitPrice	Quantity	Discount	Amount
2	Bon app'	Carnarvon Tigers	\$30.00	50	0%	\$1,500.00
3	Bon app'	Tunnbröd	\$15.00	7	0%	\$108.00
4	Bon app'	Wimmers gute Semmelknöde	\$8.00	27	0%	\$212.80
5	B's Beverages	Boston Crab Meat	\$10.00	15	0%	\$147.00
6	B's Beverages	Gnocchi di nonna Alice	\$20.00	30	0%	\$608.00

#### **Example**

Add totals such as Total Quantity, Total Amount.

You can use the math functions of Microsoft Excel, such as SUM.

1. Create a report template file as follows, define the formula of total quantity as "=SUM(C7:C8)" in cell C9, and the formula of total amount as

"=SUM(D7:D8)" in cell D9. You must use the relative reference.

D9		•	<b>∱</b> =SUM(D7:D8)		
	В		С		D
6	Category Name		Quantity		Amount
7					
8					
9	Total			0	\$0.00

2. Write the report function as follow. When XLReportGen insert some rows

according to the records, Microsoft Excel will automatically change the formulas.

@F2=REPORT(sheet="Report2" type=var cell=B7 rangecount=2)

SELECT c.CategoryName, SUM(d.Quantity), Sum(d.UnitPrice \* d.Quantity \* (1-d.Discount))

FROM Orders o

,OrderDetails d

,Products p

,Categories c

WHERE o.OrderID = d.OrderID

AND d.ProductID = p.ProductID

AND p.CategoryID = c.CategoryID

AND YEAR(o.OrderDate) = YEAR('1996-04-01')

AND MONTH(o.OrderDate) = MONTH('1996-04-01')

GROUP BY c.CategoryName

ORDER BY c.CategoryName

:

3. The following is the generated report. The formula of total quantity is changed to "=SUM(C7:C14)", and the formula of total amount is changed to "=SUM(D7:D14)".

Category Name	Quantity	Amount
Beverages	925	\$27,761.57
Condiments	378	\$10,773.27
Confections	880	\$22,877.18
Dairy Products	581	\$13,685.32
Grains/Cereals	189	\$3,325.40
Meat/Poultry	92	\$4,083.66
Produce	351	\$13,031.20
Seafood	669	\$9,316.54
Total	4,065	\$104,854.15

## 5.8 Sorting, Grouping and Totaling

## 5.8.1 Sorting data

Sorting means placing data in some kind of order to help you find and evaluate it. For example, you may want to have a customer list sorted alphabetically by name or by country.

To sort your data, you can use SQL. Use the **ORDER BY** clause to have your results displayed in a sorted order.

SELECT EmployeeID

,LastName

,FirstName

,HireDate

FROM Employees

ORDER BY HireDate; /\* ascending sort \*/

In the example above, results will come back in ascending order by hire date. To explicitly specify ascending or descending order, add ASC or DESC, to the end of your ORDER BY clause. The following is an example of a descending order sort.

ORDER BY HireDate DESC; /\* descending sort \*/

## 5.8.2 Totaling

You can sum the values, count all the values or only those values that are distinct from one another, and determine the maximum, minimum, average. To add totals, there are two ways.

1. You can add the totals using the math functions of Microsoft Excel, such as SUM. For more detail information, refer to "Using Excel Formulas" in this document.

- 2. You can use the aggregate functions in SQL statement, such as COUNT, SUM, AVG, MAX, MIN.
- (1) In the fixed table report, you can add a total directly using a separate SQL.
- (2) In the variable table report, you must add the total first using a fixed table report function before you use the variable table report function. Because the cell address of the total field will change after you use the variable table report function.

## **5.8.3** Grouping data and subreports

Grouped data is data that is sorted and broken up into meaningful groups. In a customer list, for example, a group might consist of all those customers living in the same region.

To group data in a report, you should use GROUP argument in the REPORT function. For more detail information, refer to "Report Function" in this document.

Using the feature of grouping data, you can make sub reports within a report. A sub report would typically be used to perform one-to-many lookups such as Customer / Order / Order Details.

To make sub reports within the main report,

- 1. Write a JOIN SQL statement to get data from two or more tables. For example, you can join Customers, Orders and OrderDetails tables.
- 2. Use GROUP argument in the REPORT function.

For more detail information, refer to the samples invoice.xrf, product\_catalog.xrf and sales\_detail.xrf within XLReportGen.

## 5.8.4 Subtotaling

A subtotal is a summary that totals or sums numeric values in a group. You can sum the values in each group, count all the values in each group, and

determine the maximum, minimum, average in each group. For example, determine the total sales per sales representative in a sales report.

To add subtotals, you can use the functions of Microsoft Excel or aggregate functions in SQL statement.

- You can add sub-totals using math functions of Microsoft Excel, such as SUM.
- (1) The range of SUM function should contain cells for detail records in the report template file.
- (2) The range of SUM function must contain at least one row/column that is not included in the range used for the details. For example, the row 13 is defined for the details, you should add blank row 14, and write the function as SUM(H13:H14). If you do not want to show the blank row in the report, you may hide the row.
- (3) You should use the relative references. For example, SUM(H13:H14). Microsoft Excel will change the function automatically when XLReportGen adds some rows in the report.
- 2. If you want to have a total and sub-totals,
- (1) You can add the total using SUMIF function. The range of SUMIF function must contain one row/column that is not included in the range of group. For example, the range of group is "1:15", you should add blank row 16, and write the function as SUMIF(G:G,"Subtotal:",H1:H16). You may hide the blank row.
- (2) You can add the total using the aggregate function in SQL statement. You must add the total first using a fixed table report function before you use the variable table report function. Because the cell address of total field will change after you use the variable table report function.
- 3. You can add sub-totals using the aggregate function in SQL statement too.
- (1) Use aggregate function and GROUP BY clause, get summary data for each group, and insert results into a temporary table.

- (2) If you have the different kinds of summaries, repeat the step 1, and insert results into another temporary table.
- (3) Use the variable table report function, and join the detail data and the summary data using JOIN. The summary fields must be included in the group list.

For more detail information, please refer to the samples invoice.xrf and sales\_detail.xrf within XLReportGen.

## 5.9 Charting

Charts are visually appealing and make it easy for users to see comparisons, patterns, and trends in data. You can use Microsoft Excel to add sophisticated, colorful charts in your reports. For example, you can see at a glance whether sales are falling or rising over quarterly periods, or how the actual sales compare to the projected sales.

To create a chart in a report, you should create the chart in the template file. You can create a chart on its own sheet or as an embedded object on a worksheet. For more detail information how to create chart, refer to *Microsoft Excel Help*.

To create a chart in the report template file, you can use some sample data. Using sample data, you can set the various chart options. After you have finished the customization, delete the sample data from the chart. You should keep a blank chart in the report template file.

You can use Report function to generate charts. For more detail information about charting, refer to the sample monthly\_sales.xrf within XLReportGen.

#### **Example**

The following function provides data for the chart: Sales by Categories.

@F2=REPORT(sheet="Report2" type=var cell=B7 rangecount=2)

SELECT c.CategoryName

, SUM(d.Quantity)

, Sum(d.UnitPrice \* d.Quantity \* (1-d.Discount))

FROM Orders o

,OrderDetails d

,Products p

,Categories c

WHERE o.OrderID = d.OrderID

AND d.ProductID = p.ProductID

AND p.CategoryID = c.CategoryID

AND YEAR(o.OrderDate) = YEAR('\$ReportMonth-01')

AND MONTH(o.OrderDate) = MONTH('\$ReportMonth-01')

GROUP BY c.CategoryName

ORDER BY c.CategoryName

#### Result

The worksheet of chart defined in the report template:

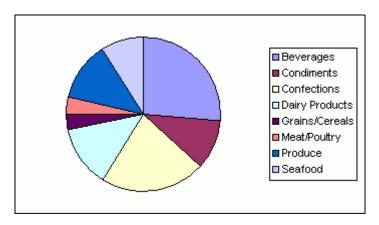
	D9	•	<i>f</i> ≈ =S	:UM(D7:D8)
	В		С	D
6	Category Name		Quantity	Amount
7				
8				
9	Total		(	\$0.00

The chart defined in the report template is a blank chart.

The worksheet of chart generated in the report:

Category Name	Quantity	Amount
Beverages	925	\$27,761.57
Condiments	378	\$10,773.27
Confections	880	\$22,877.18
Dairy Products	581	\$13,685.32
Grains/Cereals	189	\$3,325.40
Meat/Poultry	92	\$4,083.66
Produce	351	\$13,031.20
Seafood	669	\$9,316.54
Total	4,065	\$104,854.15

The chart generated in the report:



#### Remarks

- 1. The SQL statement will get the information of categories including category name, quantity, and amount.
- 2. type = "var". It is a variable table report.
- 3. sheet=" Report2". XLReportGen will put data into the worksheet "Report2" in the report file.
- 4. cell=B7. The cells corresponding to the first record are "B7,C7,D7".
- 5. The default range is "B7:D7".
- 6. rangecount=2. There are two blank ranges in the report template.
- 7. XLReportGen executes the SQL statement, and gets data from data source. First, it inserts some ranges according to the number of records. Second, it puts the data into the report by records. And then the chart is updated automatically.

### 5.10 Pictures

# **5.10.1** Inserting pictures into a report template

To make eye-catching reports, you can add pictures to your reports. You can insert pictures into the report template directly in Microsoft Excel. For example, you want to display a logo in your report. You can insert the logo graphics file into the report template. For more information about adding pictures to

worksheets, refer to Microsoft Excel Help.

## 5.10.2 Inserting pictures into a report

Except for inserting the static pictures during report design, you want to insert pictures during report building process. XLReportGen can insert pictures from the graphics files, and support all graphics file format that Microsoft Excel support.

To insert pictures into a report using XLReportGen, you should do as follows:

- 1. Store the path and name of graphics files in the database
- You stored the path and file name of pictures in database, did not store the pictures. The file path can be a relative path, an absolute path or a URL. For example, you store "images\emp1.jpg" in Photo field.
- Identify the image fields in the report function
   Write a report function in the XRF file, and identify the image fields using
   IMAGE argument. For example,
- @F1=Report(sheet="Employee Profile" ... image=photo)
- 3. Specify the positioning option and size in the report template

  To specify the positioning option and size, you should write a formatting
  expression into the cell in the report template file. XLReportGen will get the
  text of cell, and insert a picture into the cell according to the instruction in the
  format expression.
- 4. Run XLReportGen to generate report with pictures

During report generating process, XLReportGen will read the graphics files, and insert them into the report according to your instruction. If the path and file name of picture is "", XLReportGen will return "".

For more detail information about pictures, refer to the samples employee\_profile.xrf, product\_catalog.xrf within XLReportGen.

# **5.11 Using Parameters**

To use a parameter, you must define it first. If you have defined a parameter name, you can use it in SQL statements. When XLReportGen is run, it will replace the parameter name in the SQL statements with the actual value before it submits the SQL statements to data sources. Besides in SQL statements, you can use parameters in the paths and names of report file and log file.

In fact, XLReportGen will replace all strings that are the same as the names of parameters. You should be careful to define a unique name for each parameter. It is a good choice a name begins with the "\$" character.

### **Example**

Input an order id to get the order information. The field OrderID is numeric type.

1. Defining a parameter

Define a parameter as follows:

Name: \$OrderID

Title: Order ID (>=10248)

Default: 10360

2. Using a parameter

You can use the parameter "\$OrderID" in SQL statements. For example:

SELECT o.OrderID

,o.OrderDate

,SUM(d.UnitPrice \* d.Quantity \* (1-d.Discount)) AS Amount

FROM Orders o, OrderDetails d

WHERE o.OrderID = d.OrderID

AND o.OrderID = \$OrderID

GROUP BY o.OrderID, o.OrderDate

;

#### Example

Define two parameters. The first parameter is the sales date, and the second is the category of products. The field OrderDate is the date type, and CategoryName is the char type.

## 1. Defining parameters

Define parameters as follows:

Name1: \$SalesDate

Title1: Sales Date

Default1: 1996-05-01

Name2: \$Category

Title2: Category of Products

Default2:

### 2. Using parameters

You can use the parameters "\$SalesDate", "\$Category" in SQL statements.

For example:

SELECT .....

FROM Orders, OrderDetails, Products, Categories

WHERE .....

AND OrderDate = '\$SalesDate'

AND CategoryName LIKE '\$Category%'

,

/\* For Microsoft Jet SQL, LIKE '\$Category\*' \*/

### Example

Get the information from the database, table and column that you identify when the report is generated.

### 1. Defining parameters

Define parameters as follows:

Name1: \$Database

Title1: Database Name

Default1:

Name2: \$Table

Title2: Table Name

Default2:

Name3: \$Column

Title3: Column Name

Default3:

## 2. Using parameters

You can use the parameters "\$Database", "\$Table" and "\$Column" in SQL statements. For example:

USE \$Database;

or

DATABASE \$Database;

SELECT \$Column

FROM \$Table

;

### **Example**

Use parameters in the path and name of report file and log file.

1. Defining a parameter

Define a parameter as follows:

Name: \$CustomerID

Title: Customer ID

Default: C000001

2. Using a parameter

ReportFileName=report\report\_\$CustomerID.xlsx

LogFileName=log\report\_\$CustomerID.log

or

ReportFileName=report\\$CustomerID\report.xlsx
LogFileName=log\\$CustomerID\report.log

## **5.12 Programming**

# 5.12.1 Making XRF files programmatically

Sometimes you want to make an XRF file programmatically. You can do this because the XRF file is a text file. You can write a program to make an XRF file using C, perl or DOS shell, and then run XLReportGen to generate report. The two steps can be written into a batch file.

- 1. Write a program to make the XRF file as you need.
- 2. Write a batch file to call the program and XLReportGen in command line mode.

For example, you write a batch file runrpt.bat as follows. changexrf is an executable file that reads template.txt and outputs template.xrf. First runrpt.bat calls changexrf to make the XRF file, and then calls XLReportGen to generate the report.

# **Chapter 6 Function Reference**

# **6.1 Report Function**

The REPORT function executes a SQL statement to get data from data source, and puts data into a worksheet in the report file.

## **Syntax**

```
Report(...)
sqlstatement
```

#### **Arguments**

```
TYPE = reporttype
```

SHEET = sheet

FILLORDER = fillorder

CELL= celllist

RANGE = range

GROUP= *grouplist* 

GROUPRANGE = grouprange

IMAGE = fieldlist

RANGECOUNT = rangecount

PAGEBREAK = pagelength

NODATA = nodataoption

CONNECT = datasource

- The **TYPE** argument specifies the report type. Possible values are fix or var. "fix" means a fixed table report, and "var" means a variable table report. Default is var.
- The **SHEET** argument identifies a worksheet in the report template. The *sheet* is the name of worksheet. XLReportGen 5 does not use the index number of worksheet.

- The **FILLORDER** argument specifies the order in which XLReportGen fills data. Possible values are row or col. "row" means to fill data by rows. "col" means to fill data by columns. Default is row.
- The **CELL** argument specifies the positions where data values will be inserted. The *celllist* is the list of cells separated by the "," character. It identifies the cells in a worksheet. For example, "A2,B2,B3,D2,D3". The cells in the *celllist* should correspond to the data source fields in the SQL statement. The value of the first field is put into the first cell, and the value of the second field is put into the second cell ...... XLReportGen will use the next cell if you omit a cell except the first cell. If FILLORDER="row", the next cell is the right cell. If FILLORDER="col", the next cell is the below cell.
- The RANGE or COPYRANGE argument specifies the range in the worksheet to be used for the records. XLReportGen will skip or repeat the range for each record. You can reference a range of cells like "2:4" or "B2:D5". The range "2:4" means 3 entire rows. The range "A:B" means 2 entire columns. The default range is the area that includes all cells for the records. For the fixed table report, XLReportGen will skip the range for each record. For the variable table report, it will insert the blank range for each record. The COPYRANGE argument is similar to the Range. It will copy the original range to the range where data will be filled for each record. If there is no range or copyrange argument, the default for the fixed table report is range, and the default for the variable table report is copyrange.
- The **GROUP** argument specifies the group of report. The *grouplist* is the list of data source fields separated by the "," character. You can identify a field using the name or index number of field, but not simultaneously. In one report, there may be up to 10 groups. The first GROUP is group one,

- the second is group two..... Notes: the order of groups should be in accordance with the order of ORDER BY clause in the SQL statement.
- The **GROUPRANGE** argument follows the GROUP argument, and specifies the range of group in the worksheet. For example, the grouprange of level 1 must follow the group of level 1, and the grouprange of level 2 must follow the group of level 2. XLReportGen will repeat the group range for each group. The range of group should contain the range of details and the area that includes all cells for this group. You reference a group range like "2:4" or "B2:D5". For example, there are two groups, the range of group one contains all cells for the group one and the range of group two, and the range of group two contains all cells for the group two and the range of details. The default range is the area that includes all cells for this group and the range or group range for the lower level group.
- The **IMAGE** argument specifies the fields are picture files. The *fieldlist* is the list of data source fields separated by the "," character. You can identify a field using the name of field or the index number of field, but not simultaneously. In data source, you stored the path and file name of picture, not the picture. The file path can be a relative path, an absolute path or a URL. If it is a relative path, the base path is the path of report template file.
- The RANGECOUNT argument specifies the number of blank range which you defined in the report template. It is valid when the type is "var".

  Possible values are 1 or 2. One means one blank range you defined, and two means two ranges. If you hope that the format of the last row/column border can be different from the others, you can define two blank ranges.

  Default is 1.
- The **PAGEBREAK** argument specifies the page breaks. The unit of page length is r or g. "r" means record, "g1" means group one, "g2" means group

two...... For example, "6r" or "6" means that XLReportGen will insert a page break per 6 records, "1g1" or "1g" means a page break per group one, and "1g1,6r" means a page break per group one or 6 records. Default is no page break.

- The **NODATA** argument specifies an option when no data are returned from data source. It is valid when the type is "var". If the value is "delrange", XLReportGen will delete the range when no data are returned. If the value is "delsheet", XLReportGen will delete the sheet when no data are returned. Default is to do nothing.
- The **CONNECT** argument specifies the connection to a data source. The CONNECT can takes a string that expresses a data source name or a number that expresses a data source index. The index number of data source is the sequential number defined in the XRF file, and starts at 1. The default implies the first data source.
- The *sqlstatement* is a SQL statement such as a SELECT statement.

### **Example 1, Fixed Table Report**

```
The following function makes the Excel report: Top 5 Employees for Sales.
```

@F1=REPORT(sheet="Report6" type=fix cell=B7)

SELECT TOP 5 e.FirstName + ' ' + e.LastName

- , SUM(d.Quantity)
- , Sum(d.UnitPrice \* d.Quantity \* (1-d.Discount)) AS SalesAmount

FROM Orders o

,OrderDetails d

,Products p

,Employees e

WHERE o.OrderID = d.OrderID

AND d.ProductID = p.ProductID

AND o.EmployeeID = e.EmployeeID

AND YEAR(o.OrderDate) = 1996

AND MONTH(o.OrderDate) = 04

GROUP BY e.FirstName, e.LastName

ORDER BY 3 DESC

:

#### Result

The fixed table report defined in the report template:

nt

The fixed table report generated in the report:

6	Rank	Employee Name	Quantity	Amount
7	1	Nancy Davolio	467	\$24,827.45
8	2	Laura Callahan	912	\$20,728.13
9	3	Janet Leverling	578	\$16,360.12
10	4	Andrew Fuller	558	\$13,937.64
11	5	Margaret Peacock	481	\$8,298.45

#### Remarks

- 1. The SQL statement will get the information of top 5 employees for sales, including employee name, quantity of products, and sales amount.
- 2. type="fix". It is a fixed table report.
- 3. sheet = "Report6". XLReportGen will put data into the worksheet "Report6" in the report file.
- 4. cell=B7. The cells corresponding to the first record are "B7,C7,D7".
- 5. The default range is "B7:D7".
- 6. XLReportGen executes the SQL statement, and gets data from data source. It puts the data into the report by records.

## **Example 2, Variable Table Report**

The following function will makes the Excel report: Mail Label.

@F1=Report(sheet="Mail Label" type=var cell=B7,B8,B9,B10 copyrange=1:11 pagebreak = 4r)

SELECT CompanyName

,Address

,CityName & ', ' & CountryName

,PostalCode

FROM Customers, Cities, Countries

WHERE Customers.CityCode = Cities.CityCode

AND Customers.CountryCode = Cities.CountryCode

AND Customers.CountryCode = Countries.CountryCode

ORDER BY CompanyName

.

#### Result

The variable table report defined in the report template:

1			
2		XYZ Limited Co.	-112
3		XYZ Building No.88 AAA Street BBB District	611/2
4		Beijing China, 100123	Limited
0			
6	To:		
7			
8			
9			
10			
11			

The variable table report generated in the report:

1		0.000,000,000,000,000
2		XYZ Limited Co.
3		XYZ Building No.88 AAA Street BBB District
4		Beijing China, 100123
J		
6	To:	
7		Alfreds Futterkiste
8		Obere Str. 57
9		Berlin, Germany
10		12209
11		
12		
13		XYZ Limited Co.
14		XYZ Building No.88 AAA Street BBB District
15		Beijing China, 100123
10		
17	To:	
18		Ana Trujillo Emparedados y helados
19		Avda. de la Constitución 2222
20		México D.F., Mexico
21		5021
22		
		5021

#### Remarks

- 1. The SQL statement will get the information of customers including company name, address, city name, country name, and postal code.
- 2. type="var". It is a variable table report.
- 3. sheet="Mail Label". XLReportGen will put data into the worksheet "Mail Label" in the Excel report file.
- 4. cell=B7,B8,B9,B10. These cells correspond to the first record.
- 5. copyrange=1:11. Because the default range is "B7:B9", you must specify a range explicitly. XLReportGen will copy the range for each record.
- 6. pagebreak = 4r. XLReportGen will add a page break per 4 records.
- 7. XLReportGen executes the SQL statement, and gets data from data source. First, it inserts some ranges according to the number of records. Second, it copies the source range into the all added ranges. And then it puts the data into the report by records. Finally, it adds page breaks per 4 records.

## **Example 3, Variable Table Report with Group**

```
The following function will makes the Excel report: Customer Profile.
```

@F1=Report(sheet="Customer Profile" cell=A6,B7,C7,D7,D8,E7,E8,E9

copyrange=6:9 group=1 pagebreak = 6r)

SELECT LEFT(CompanyName,1)

,CompanyName

,ContactName

,'Phone: ' & Phone

,'Fax: ' & Fax

,Address

,CityName & ', ' & CountryName

,PostalCode

FROM Customers, Cities, Countries

WHERE Customers.CityCode = Cities.CityCode

AND Customers.CountryCode = Cities.CountryCode

AND Customers.CountryCode = Countries.CountryCode

ORDER BY CompanyName

:

#### Result

The variable table report defined in the report template:

5	Customer Name	Contact Name	Phone/Fax	Address
6				
7				
8				
9				
10				

The variable table report generated in the report:

5	Customer Name	Contact Name	Phone/Fax	Address
6	A			
7	Alfreds Futterkiste	Maria Anders	Phone: 030-0074321	Obere Str. 57
8			Fax: 030-0076545	Berlin, Germany
9				12209
10				
11	Ana Trujillo Emparedados y helados	Ana Trujillo	Phone: (5) 555-4729	Avda, de la Constitución 2222
12			Fax: (5) 555-3745	México D.F., Mexico
13				5021
14	В			
15	Berglunds snabbköp	Christina Berglund	Phone: 0921-12 34 65	Berguvsvägen 8
16			Fax: 0921-12 34 67	Lule, Sweden
17				S-958 22
18				
19	Blauer See Delikatessen	Hanna Moos	Phone: 0621-08460	Forsterstr. 57
20			Fax: 0621-08924	Mannheim, Germany
21				68306

#### Remarks

- 1. The SQL statement will get the information of customers including company name, contact name, phone, fax, address, city name, country name, and postal code.
- 2. The default type is "var". It is a variable table report.
- 3. sheet=" Customer Profile". XLReportGen will put data into the worksheet "Customer Profile" in the report file.
- 4. group=1. XLReportGen will group data by the first letter of company name.
- 5. cell= A6,B7,C7,D7,D8,E7,E8,E9. These cells correspond to the first record.
- 6. copyrange=6:9. Because the default range is "B7:E9", you must specify a range explicitly. XLReportGen will copy the range for each record.
- 7. There is no grouprange. XLReportGen will give a default value. The default grouprange is "6:9".
- 8. pagebreak = 6r. XLReportGen will add a page break per 6 records.
- 9. XLReportGen executes the SQL statement, and gets data from data source. First, it groups the data. Second, it inserts some ranges according to the number of records. Next, it copies the source range into the all added ranges. And then it puts the data into the report by records. Finally, it adds page breaks per 6 records.

### **6.2 Name Function**

The Name function executes a SQL statement, and assigns the values to the names defined in the Excel workbook. XLReportGen will just fetch the first record, no matter how many records are returned from data source.

## **Syntax**

```
Name(...)
sqlstatement
```

#### **Arguments**

NAME= namelist

CONNECT= datasource

- The NAME argument specifies the names you want assign values to. The namelist is the list of names separated by the "," character. For example, "BeginDate, EndDate" means two names: BeginDate and EndDate that should be defined in the report template. The names in the namelist should correspond to the fields in the SQL statement. The value of the first field is put into the first name, and the value of the second field is put into the second name ...
- The **CONNECT** argument specifies the connection to a data source. The CONNECT can takes a string that expresses a data source name or a number that expresses a data source index. The index number of data source is the sequential number defined in the XRF file, and starts at 1. The default implies the first data source.
- The **sqlstatement** is a SQL statement such as a SELECT statement.

### **Example**

The following function executes a SQL statement, assigns the values of fields to names.

@F1=NAME(NAME=BeginDate,EndDate)

```
SELECT min_date, max_date FROM tmp0 .
```

#### Remarks

XLReportGen executes the SQL statement, and gets data from data source. It assigns the value of field "min\_date" to the name "BeginDate" and the value of field "max date" to the name "EndDate".

You should define the names in the report template first. To define and use a name, do as follows:

- 1. Run Microsoft Excel program, and open the report template file.
- 2. On the **Insert** menu, click **Name**, and click **Define**.
- 3. In the **Name** box, enter a name such as BeginDate. In the **Reference** box, enter "=1".
- 4. In a cell such as C4, enter "=BeginDate".
- 5. On the **Format** menu, click **Cells**, and then click the **Number** tab. Click **Date** type, and select format you want to use.

# **6.3 ExecSQL Function**

The EXECSQL function executes a SQL statement, but does not return result to report.

## **Syntax**

```
ExecSQL(...) sqlstatement
```

#### **Arguments**

CONNECT= datasource

■ The **CONNECT** argument specifies the connection to a data source. The CONNECT can takes a string that expresses a data source name or a number that expresses a data source index. The index number of data

source is the sequential number defined in the XRF file, and starts at 1. The default implies the first data source.

■ The **sqlstatement** is a SQL statement that can be DDL (Data Definition Language), DML (Data Manipulation Language) and even DCL (Data Control Language).

Using EXECSQL function, you can open a database, create a temporary table, insert data into a temporary table, update data, execute a stored procedure, and drop a table. It is very useful to create a temporary table, and prepare data for REPORT function.

### **Example**

The following functions will create a table tmp0, and add some records into table. No result is returned to the report file.

```
@F1=EXECSQL()
CREATE TABLE tmp0 (
min_date DATE,
max_date DATE)
;
@F2=EXECSQL()
INSERT INTO tmp0
SELECT ...
```

# **Chapter 7 Menus, Toolbar and Shortcut Keys**

# 7.1 File Menu

The File menu offers the following commands:

New	Creates a new XRF file.
Open	Opens an existing XRF file.
Close	Closes an opened XRF file.
Save	Saves an opened XRF file using the same filename.
Save As	Saves an opened XRF file to a specified file name.
Open Report	One on eviating report template file
Template	Opens an existing report template file.
Open Report File	Opens an existing report file.
Open Log File	Opens an existing log file.
Recent Files	Opens last XRF files you closed.
Exit	Exits XLReportGen.

# 7.2 Edit Menu

The Edit menu offers the following commands:

Undo	Undo previous editing operation.
Redo	Redo an editing operation that you undid.
Cut	Deletes text from the document and moves it to the
Out	clipboard.
Сору	Copies text from the document to the clipboard.
Paste	Pastes text from the clipboard into the document.
Delete	Deletes the selection.
Select All	Selects the entire text.
Find	Finds the specified text.
Find Next	Finds the next matching text.
Replace	Replaces specific text with different text.
Go to	Goes to specified line or function in the document.

# 7.3 View Menu

The View menu offers the following commands:

Toolbar	Show or hide the toolbar.	
---------	---------------------------	--

Status Bar	Show or hide the status bar.
------------	------------------------------

# 7.4 Report Menu

The Report menu offers the following commands:

Configuration	Configures the file names, data sources and parameters.
Run	Runs the XRF file to generate a report.

## 7.5 Tools Menu

The Tools menu offers the following commands:

Option	Sets options.
- J	

# 7.6 Help Menu

The Help menu offers the following commands:

Help Context	Starts the online help system.	
Tutorial	Starts a brief step-by-step tutorial.	
Tip of the Day	Displays a dialog containing a useful tip about	
p or and Day	XLReportGen.	
Hints and Tips	Displays miscellaneous hints and tips on how to use	
Tillits and Tips	XLReportGen productively.	
Shortcut Keys	Shows the keyboard map.	
Home Page	Takes you to the home page of XLReportGen web	
Tionie Page	site.	
Support	Takes you to the support page of XLReportGen web	
Support	site.	
Buy Now	bw Buy XLReportGen immediately.	
About	Displays the version number of XLReportGen.	

## 7.7 Toolbar

The toolbar provides quick access to many features. The buttons on the toolbar perform the following commands:

Buttons	Commands				
---------	----------	--	--	--	--

	Creates a new XRF file.
	Opens an existing XRF file.
-	Saves an opened XRF file using the same filename.
	Open the report template file.
F	Open the report file.
×	Deletes text from the document and moves it to the clipboard.
	Copies text from the document to the clipboard.
	Pastes text from the clipboard into the document.
5	Undo previous editing operation.
C	Redo an editing operation that you undid.
<del>23</del>	Finds the specified text.
$\Rightarrow$	Goes to specified line or function in the document.
	Configures the file names, data sources and parameters.
•	Runs the XRF file to generate a report.
•	Starts the online help system.
\$	Buy XLReportGen immediately.

# 7.8 Shortcut Keys

Shortcut Keys	Commands
Ctrl+N	Creates a new XRF file.
Ctrl+O	Opens an existing XRF file.
Ctrl+S	Saves an opened XRF file using the same filename.
Ctrl+Z	Undo previous editing operation.
Ctrl+Y	Redo an editing operation that you undid.
Ctrl+X	Deletes text from the document and moves it to the clipboard.
Ctrl+C	Copies text from the document to the clipboard.

Ctrl+V	Pastes text from the clipboard into the document.
Delete	Deletes the selection.
Ctrl+A	Selects the entire text.
Ctrl+F	Finds the specified text.
F3	Finds the next matching text.
Ctrl+H	Replaces specific text with different text.
Ctrl+G	Goes to specified line or function in the document.
F2	Configures the file names, data sources and parameters.
F5	Runs the XRF file to generate a report.
F1	Starts the online help system.

# **Chapter 8 Hints and Tips**

You can run XLReportGen from the command line. The format is:

excelreport <xrf file name> [-c] [-d] [-u1 user1] [-p1 pwd1] ... [pa1 pa2 ...]

For example:

excelreport c:\excelreport\monthlysales.xrf -c 199605

XLReportGen can be scheduled with Windows Scheduled Tasks or other tools. The process of generating reports can be fully automated, periodically or on events.

XLReportGen comes with a sample database Sample.mdb and some sample reports. You can use them when learning the program. To use the sample reports, you must add a data source named "Report Sample" to specify the sample database.

To make a report template directly, you can use some sample data. It is very useful especially for formatting. After you have finished the formatting, delete the sample data.

To create a chart in the report template file, you can use some sample data.

Using sample data, you can set the various chart options. After you have finished the chart setting, delete the sample data.

You can use formulas to perform calculations in a report template file.

You can protect the generated report so that it cannot be modified. To protect the report, select the **Protect Report** check box in the **Configuration** dialog

box.

You can edit an XRF file (.xrf) with a text editor such as Notepad.

If you associate XLReportGen with the file extension ".xrf", an XRF file with the extension ".xrf" will open in XLReportGen when you double-click the file. The information:

File Extension: .xrf

Action: open

Application: "C:\Program Files\LJZsoft\ExcelReport.exe" "%1"

For the report template file, report file and log file, it is possible to give a relative path. If it is a relative path, the base path is the path of XRF file.

In the SQL statements, you can use parameters. To use parameters, you must define them first.

In the paths and names of report file, template file and log file, you can use parameters. To use parameters, you must define them first.

You should be careful to define a unique name for each parameter, because XLReportGen will replace all strings that are the same as the names of parameters. It is a good choice a name begins with the "\$" character such as "\$ReportDate".

In the text editor window, you can use comments. A comment is the "/\*" characters, followed by any sequence of characters (including new lines), followed by the "\*/" characters. You cannot nest comments.

You can use hints in the SQL statement for Oracle database.

To add totals or subtotals, you can use the functions of Microsoft Excel or aggregate functions in SQL statement.

To group data in a report, you should use GROUP argument in the report function.

In REPORT function, the order of groups should be in accordance with the order of ORDER BY clause in the SQL statement.

You can create reports with pictures using XLReportGen. You should store the path and name of graphics file in the database, identify the image fields in the report function, and specify the positioning option and size in the report template file.

To convert from pixels to points, it is depend on the screen resolution (DPI). If you have a 96 dpi screen (Windows PC), 4 pixels are equal to 3 points.

It is very useful to create a temporary table. You can prepare data using INSERT/UPDATE/DELETE/INSERT SELECT, and then make a report using REPORT function.

You can write a program to make an XRF file using C, perl or DOS shell, and then run XLReportGen to generate the report. The two steps can be written into a batch file.

If the ranges of groups are different from the range of details, it may be slow to generate the report.

# **Chapter 9 XRF File Reference**

## 9.1 XRF File Format

The layout of an XRF file is as the following:

ExcelReport Version 2.0

[Data Source]

.....

[File]

.....

[Parameter]

.....

[SQL]

"ExcelReport" is the flag of XRF file. "Version 2.0" is the version of XRF file. An XRF file contains several sections. The sections of [Data Source], [File], and [Parameter] consist of a group of related settings. The sections and settings are listed in the XRF file in the following format:

[section name]

keyname=value

In this example, [section name] is the name of a section. The enclosing brackets ([]) are required, and the left bracket must be in the leftmost column on the screen.

The keyname=value statement defines the value of each setting. A keyname is the name of a setting. It can consist of any combination of letters and digits, and must be followed immediately by an equal sign (=). The value can be an integer, a string, or a quoted string, depending on the setting.

You can include comments in these sections. You must begin each line of a

comment with a semicolon (;).

The [SQL] section consists of functions. Each function is begin with the "@" character. Syntax:

@functionno=functionname(arguments)
sqlstatement

The functionno is the label of function.

The *functionname* represents a function.

The *arguments* define various properties for the function. An argument takes the form *Name="Value"*. The argument value can be delimited by single or double quotes.

The *sqlstatement* is a SQL statement.

You can use comments in [SQL] section. A comment is the "/\*" characters, followed by any sequence of characters (including new lines), followed by the "\*/" characters. You cannot nest comments.

# 9.2 [Data Source] Section

The [Data Source] section contains information how to connect to data sources.

Name1=<name1>
Name2=<name2>
......
Name10=<name10>

These settings specify the names of data sources you want to connect to.

Name1 specifies the name of the first data source. Name2 specifies the name of the second data source...... You can define up to 10 data sources in one XRF file. You can make a connection to a data source using an ODBC data source name or a connection string. Even if you use a connection string to

make a connection, you should define a name that you can reference in functions.

User1=<username1>

User2=<username2>

. . . . . .

User10=<username10>

These settings specify the user names. If you use an ODBC data source name to make a connection, you should define user name and password. If you use a connection string to make a connection, XLReportGen will ignore the setting. User1 specifies the user name of the first data source. User2 specifies the user name of the second data source...... They are optional settings. If defined default user and password in ODBC data source, you may not define them.

Password1=<password1>

Password2=<password2>

. . . . . .

Password10=<password10>

These settings specify the user passwords. If you use an ODBC data source name to make a connection, you should define user name and password. If you use a connection string to make a connection, XLReportGen will ignore the setting. Password1 specifies the password of the first data source.

Password2 specifies the password of the second data source...... They are optional settings. If defined default user and password in ODBC data source, you may not define them.

ConnectionString1=<connectionstring1>

ConnectionString2=<connectionstring2>

. . . . .

ConnectionString10=<connectionstring10>

These settings specify the connection strings. If you defined a connection string, XLReportGen will make a connection to the data source using the connection string, and ignore the settings of name, user and password. But you must define a name that you can reference in functions.

ConnectionString1 specifies the connection string of the first data source.

ConnectionString2 specifies the connection string of the second data source...... They are optional settings. If no connection string, XLReportGen will make a connection to data source using the ODBC data source name.

### EncryptPassword = Y/N

This setting specifies how to save the passwords of data sources. If the value is Y, the passwords will be saved in an encrypted format. If the value is N, the passwords will be saved in plain text.

# 9.3 [FILE] Section

[FILE] section contains information about files.

#### ReportTemplateFileName=<templatefilename>

This setting specifies the name of report template file. <templatefilename> value is the name and path of report template file. The file path can be a relative path or an absolute path. If it is a relative path, the base path is the path of XRF file.

#### ReportFileName=<reportfilename>

This setting specifies the name of report file. <reportfilename> value is the name and path of report file. The file path can be a relative path or an absolute

path. If it is a relative path, the base path is the path of XRF file. In <reportfilename>, you can use parameters.

ProtectReport=Y/N

This setting specifies whether the report generated is protected. If the value is Y, the report is protected, and cannot be modified. If the value is N, the report is not protected. Default is N.

ProtectionPassword=rotectionpassword>

LogFileName=<logfilename>

This setting specifies the name of log file. < logfilename > value is the name and path of log file. The file path can be a relative path or an absolute path. If it is a relative path, the base path is the path of XRF file. In < logfilename >, you can use parameters.

# 9.4 [PARAMETER] Section

[PARAMETER] section contains information about parameters.

Name1=<name1>

Name2=<name2>

. . . . . .

Name10=<name10>

These settings specify the names of parameters. Name1 specify the name of

the first parameter, Name2 specifies the name of the second parameter......

You can define up to 10 parameters in one XRF file.

```
Title1=<title1>
Title2=<title2>
.....
Title10=<title10>
```

These settings specify the titles of parameters. Title1 specifies the title of the first parameter. Title2 specifies the title of the second parameter......

```
Default1=<default1>
Default2=<default2>
.....
Default10=<default10>
```

These settings specify the default values of parameters. Default1 specifies the default value of the first parameter. Default2 specifies the default value of the second parameter......

# **Chapter 10 License and Support**

## 10.1 License

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1) XLReportGen Standard Edition

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# **10.2 Technical Support**

If you encounter any problems in usage of XLReportGen, and need the technical support:

Go to our support web site at:

http://www.ljzsoft.com/support.htm

Send email to support@ljzsoft.com